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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Nobuo SHIMAZU et al.

Examiner: Unknown

Serial No : 09/765,388

Art Unit: Unknown

Filed : January 22, 2001

For : ELECTRON BEAM PROXIMITY
EXPOSURE APPARATUS AND METHOD

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on July 2, 2001.

K.M. McManus
K.M. McManus

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Preliminary to calculation of the filing fee and examination of this application, please enter the following amendments:

IN THE SPECIFICATION:

Please amend the specification as follows. Attached herewith is a marked-up version of the amended paragraphs.

Page 8, lines 17-23:

Figs. 6(A) and 6(B) are views showing portions of an electron gun 14, the condenser lens 18 and the blanker electrodes 66 in the electron beam proximity exposure apparatus according to the embodiment. Fig. 6(A) is a sectional view including the optical axis (the Z-axis) and the X-axis, and Fig. 6(B) is a sectional view including the Z-axis and the Y-axis. Here the blanker electrodes 66 comprise two electrodes parallel disposed. When voltage is applied, the blanker electrodes 66 form an electric field in the Y-axis direction and no electric field in the direction of the X-axis.

Page 10, lines 5-14:

Fig. 7(C) shows an example of electrodes embodying the electrostatic cylindrical lenses 81 and 82. As shown in the drawing, three pieces of sheet electrodes 91A, 92A and 93A and three pieces of sheet electrodes 91B, 92B and 93B are parallelly disposed separately from each other so that side surfaces of the electrodes 91A and 91B, 92A and 92B, and 93A and 93B respectively face to each other. In other words, it makes the configuration that three pieces of sheet electrode are parallelly disposed separately from each other, and the central portions thereof are cut away in a certain distance. The electrodes 91A and 91B, and 93A and 93B, are grounded, and the electrodes 92A and 92B are applied with a positive voltage, so that the electrostatic cylindrical lens having a positive power in only the direction denoted with Y in the drawing is formed.

Respectfully submitted,

Date: July 2, 2001

By: 

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Mark-Up Copy of the Amended Paragraphs in the Specification

Page 8, lines 17-23:

Figs. 6(A) and 6(B) are views showing portions of an electron gun 14, the condenser lens 18 and the blanker electrodes 66 in the electron beam proximity exposure apparatus according to the embodiment. Fig. 6(A) is a sectional view including the optical axis (the Z-axis) and the X-axis, and Fig. 6(B) is a sectional view including the Z-axis and the Y-axis. Here the blanker electrodes 66 comprise two electrodes parallelly disposed. When voltage is applied, the blanker electrodes 66 form an [electrode] electric field in the Y-axis direction and no electric field in the direction of the X-axis.

Page 10, lines 5-14:

Fig. 7(C) shows an example of electrodes embodying the electrostatic cylindrical lenses 81 and 82. As shown in the drawing, three pieces of sheet electrodes 91A, [91B] 92A and 93A and three pieces of sheet electrodes 91B, [91B] 92B 93B are parallelly disposed separately from each other so that side surfaces of the electrodes 91A and 91B, 92A and 92B, and 93A and 93B respectively face to each other. In other words, it makes the configuration that three pieces of sheet electrode are parallelly disposed separately from each other, and the central portions thereof are cut away in a certain distance. The electrodes 91A and 91B, and 93A and 93B, are grounded, and the electrodes 92A and 92B are applied with a positive voltage, so that the electrostatic cylindrical lens having a positive power in only the direction denoted with Y in the drawing is formed.